FOX RIVER CURRENT

March/April 2002 Vol. 5, No. 2 Update from the Lower Fox River Intergovernmental Partnership

Trustees Work on Restoration Plan

By Susan Pastor, U.S. Environmental Protection Agency

Developing alternatives to restore natural resources in the Lower Fox River and Green Bay that were injured from exposure to polychlorinated biphenyl contamination is at the top of the agenda for the site's five natural resource trustees.

These alternatives will be part of a restoration plan that will lay out the trustees' priorities for all settlement dollars, according to Colette Charbonneau, U.S. Fish and Wildlife Service restoration coordinator. The plan will also include a portion of last year's $41.5 million interim settlement with Appleton Papers, Inc. and NCR Corporation. "This will be the umbrella plan for other settlements," she explained.

To obtain settlements, the trustees typically negotiate with the parties determined to be potentially responsible for site contamination. "So far, there is only the API and NCR interim settlement," Charbonneau continued. "We are listening and talking with all of the paper companies. They are interested in reaching agreements to restore natural resources."

The kinds of projects that often come from such settlements under a restoration plan include those that protect and enhance habitat, acquire land, restock fish and provide educational programs. Charbonneau, who has served as the FWS representative on the Fox River since last fall, has been working closely to draft a restoration plan with the Oneida Tribe of Indians of Wisconsin and Wisconsin Department of Natural Resources, two of the trustees. "The Oneida Tribe and DNR have a wealth of experience when it comes to restoration projects," she explained. "The other trustees will assist in finalizing the restoration plan once a first draft is completed."

Before it is finalized, their plan will be available to the public for comment this spring. Comments will be directed to the organization designated as the "administrative trustee." Once the comments are addressed, Charbonneau is hopeful that restoration projects will start quickly. "I'm hoping for July," she said. "I'm always optimistic."

The other trustees are the National Oceanic Atmospheric Administration and Menominee Indian Tribe of Wisconsin. The U.S. Environmental Protection Agency, which is not a natural resource trustee, is involved in discussions with DNR that pertain to the cleanup portion of the API/NCR interim settlement.

Fish and Wildlife Service E-mail, Web Sites Down

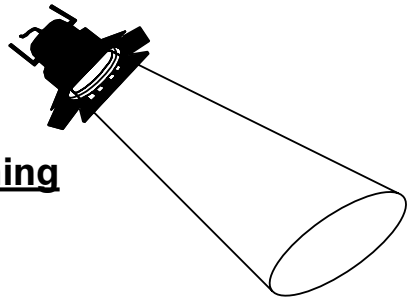
By Susan Pastor, U.S. Environmental Protection Agency

If you have had difficulty accessing the U.S. Department of Interior on the Internet, you are not alone. E-mail and Internet Web sites for most of the department, which include the U.S. Fish and Wildlife Service, have been down since December 2001 because of a court order. At press time, only the United States Geological Service, the Office of Surface Mining and the National Park Service could be accessed electronically. More information can be found at www.doi.gov.

In the meantime, if you need to contact FWS staff concerning the Lower Fox River, please contact Colette Charbonneau at 920-465-7407 (phone) or 920-465-7410 (fax).

In response to reader requests, the Fox River Current will regularly feature successful natural resource damage assessments similar to what may occur at the Lower Fox River.

Spotlight On:



Commencement Bay NRDA and Restoration Planning

By Susan Pastor, U.S. Environmental Protection Agency

Although the *Fox River Current* featured the Commencement Bay Nearshore/Tideflats Superfund site in its July/August 2000 issue, it is being used again to illustrate its successful resources restoration projects.

Along Swan Creek, one of the successfully completed projects, the city of Tacoma has re-established salmon stocks.

Commencement Bay, the harbor for Tacoma, Wash., is located at the south end of Puget Sound. Industrial and commercial activities, including pulp and paper mills, are located on or adjacent to the waterways that flow into the bay. The nearshore area and waterways are used extensively for rearing and feeding habitat by numerous marine species, with the bay itself serving as a migratory pathway for salmon. The natural resource trustees are concerned about the adverse effects to their trust resources caused by the release of hazardous substances into the bay and waterways, with consequent sediment contamination on the bottom.

Serving as the lead, the National Oceanic and Atmospheric Administration worked with other natural resource trustees in coordination with the U.S. Department of Justice on two agreements aimed at creating and enhancing habitat for fish and wildlife injured by years of pollution, which included polychlorinated biphenyls, in the bay. The other trustees were the U.S. Department of the Interior (represented by the U.S. Fish and Wildlife Service), three state of Washington agencies, the Puyallup Tribe of Indians and the Muckleshoot Indian Tribe.

The agreements settled claims by DOJ on behalf of the trustees against the city of Tacoma and the Washington Department of Natural Resources. Under the first agreement, the city agreed to collaborate with the trustees in the development and implementation of five marine and freshwater restoration projects. The city provided the property, funds and services needed to construct and maintain the habitat restoration projects in cooperation with the trustees. It also paid for additional natural resource injury evaluation and

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restoration planning efforts. In addition, it operated a pollution reporting hotline for five years, funded Indian tribe trustees' environmental enforcement programs and other natural resource-related matters, and reimbursed the trustees for part of their costs involved in studying and documenting the impact of pollutants on the area's natural resources.

According to NOAA Region 10 Injury Assessment Specialist Rob Wolotira, some of the projects are still underway. "We are in the midst of them," he said. "Two projects are already complete."

One of the completed projects, Swan Creek, appears to be especially successful. Under its settlement, the city designed a stream restoration project to eliminate fish passage impediments, create additional stream meanders, and re-establish salmon stocks. "It's more salmon friendly now," explained Wolotira, who works in NOAA's damage assessment center in Seattle. "While only completed last summer, hundreds of adult chum salmon were seen there in the fall."

Under the second agreement, Washington DNR made three separate parcels of aquatic lands in the bay available for habitat restoration projects and is working with the trustees to identify corrective measures needed to benefit the broader Commencement Bay environment.

Finalized in 1997, the agreements provided funding, property and in-kind services to restore nearly 38 acres of submerged lands, intertidal areas, freshwater wetlands, streams and adjacent upland areas. The goal of the projects was to restore, enhance and preserve important habitat for fish, other marine species, birds and wildlife affected by the release of hazardous substances to the bay. Projects were selected to benefit a variety of habitats in areas identified by the trustees, responsible parties, local governments and the public through a bay-wide restoration planning process.

The planning process included a significant amount of input from the public, according to Wolotira, who has been involved with NRDAs since 1994. "A variety of locations were identified," he continued, "and we requested that the public assist in ranking them. There were dozens of locations to evaluate, and we have about a dozen currently being restored."

The agreements actually follow three previous settlements the trustees finalized with other parties in 1991, 1993 and 1996. In 1998, another settlement followed the 1997 agreements. Although the projects agreed to under the city settlement are still under construction, the trustees have seen the completion of six other projects done under the earlier agreements, added Jennifer Steger of NOAA's restoration center. "More than 110 acres will be restored by 2005," she said.

Through it all, the trustees have stayed committed to keeping the community informed of any progress made. "These things take so much time that people assume there is no movement unless they are informed," said Wolotira.

To keep citizens involved in the process, the trustees host quarterly meetings to which citizens are invited. "The meetings are fairly well attended by representatives of environmental groups, industry and local government." Wolotira stated. "They are useful because the few people who are there are able to disseminate information on where we are and where we are going."

Wolotira said that while keeping the public informed about these projects has been a necessity, it has also been satisfying. "Working with the public is an adventure, but it is also a necessary and fulfilling exercise," he remarked. "The public is directly involved with site selection and design as well as monitoring restored sites. Who better to provide you with a blueprint than the people who live there?"

For further information about the Commencement Bay NRDA, contact Rob Wolotira at (206) 526-4360 or refer to the NOAA website: www.darcnw.noaa.gov.

In response to reader requests, the Fox River Current will regularly feature articles on the technologies used to address contaminated sediment.

Technical Corner . . .

Vitrification Demonstration Shows Potential

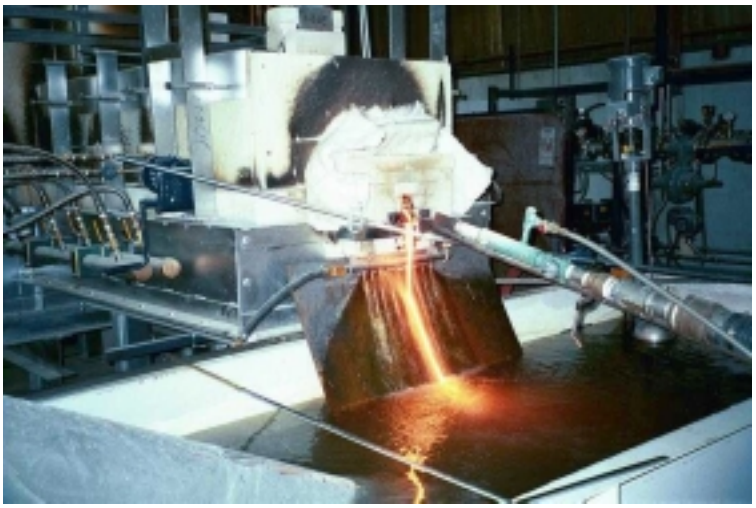
By Greg Swanson, Wisconsin Department of Natural Resources

Last summer's demonstration scale test of the technology for melting polychlorinated biphenyl-contaminated sediment in a glass furnace has yielded results that indicate that a full-scale commercial sediment vitrification facility could be practical.

According to Bob Paulson, Wisconsin Department of Natural Resources toxicologist who oversaw the demonstration project for the DNR, "We are very encouraged by the results we've seen so far. The process satisfies our main objective of destroying the PCBs once and for all so we'll never have to deal with them again. It also appears to be competitive as far as cost goes and the glass aggregate that's produced is free of contaminants and commercially useful."

The process is a relatively simple one, using proven technology to turn contaminated sediment into a black glass aggregate resembling very coarse sand that has a number of suitable uses including fill for construction projects, roofing material and pavement. The process also effectively neutralizes the contaminants in both the glass aggregate and the exhaust gasses emitted from the melter.

A full-scale melter operating 24 hours a day, 350 days a year and processing 341 tons a day of dried sediment would make 250 tons a day of glass aggregate. Using the average concentration of 28 parts per million of PCBs in the Fox River sediment used in the pilot project, the amount of sediment fed in a year through this size melter would contain 6,983 pounds of PCBs. The amount of PCBs emitted annually in the melter's exhaust gas was projected to be 1.58 grams or about 1/20 of an ounce. This amounts to a PCB destruction rate of 99.999949 percent. "In actual practice, a full scale melter would probably emit even lower amounts of PCBs in its exhaust because we expect the average concentration of PCBs in the sediment to be lower than 28 ppm," according to Paulson. "Also, the exhaust gases would spend about eight times longer in the melter before being emitted than they did in the pilot scale melter."



Vitrification turns contaminated sediment into a black glass aggregate resembling very coarse sand.

There are other emissions that were also evaluated in the demonstration. Mercury emissions from a full-scale melter would be expected to amount to about 3 ounces of the approximately 8,500 pounds of what is currently released from all sources annually into Wisconsin's air. Other hazardous air pollutants such as silver, arsenic, barium, cadmium, chromium, lead and selenium were also tested for and showed no detectable amounts in the exhaust. Sampling and analysis for 63 semi-volatile organic compounds and 51 volatile compounds was also conducted and only one semi-volatile compound was detected. That compound was benzoic acid, not considered a hazardous air pollutant, which would be emitted at a rate of 2.37 pounds a year.

Dioxins and furans, clearly present in the dried sediment, were found to be 99.9894 percent destroyed during melting, thus eliminating the fear that these compounds would be created during the combustion

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process. Other emissions typically associated with combustion processes, like nitrogen oxides, sulfur dioxide, carbon monoxide, organic compounds and particulate matter were all below the thresholds for other large scale industrial emitters known as major sources.

There are a number of variables that would impact the operations of a melter facility. Among those are the capacity of the melter, whether the facility is integrated with adjacent industrial resources with which it can share resources, whether or not it has on-site storage capability, and the price for which the glass aggregate could be sold.

For the purposes of the analysis, the smallest capacity melter that was considered produces 100 tons of aggregate a day, with other units at capacities of 250 and 375 tons a day. The 250- and 375-ton facilities were also examined based on either a single unit or two units co-located on the same site. An economy of scale is very evident in this examination in that more and larger units produce glass less expensively per ton.

The smaller 100-ton facilities were assumed to be feasible only if integrated into other industrial facilities, while the 375-ton units were assumed to operate only as stand alone facilities. The 250-ton melters were examined as both integrated and stand alone, with the integrated version showing a slight economic advantage.

A melter facility with storage capabilities can operate 350 days a year, while one without storage would run 240 days, which is equal to the length of the dredging season. The price range that was considered for selling the glass aggregate was from $2 to $25 a ton.

A midrange facility would be a 250-ton a day, standalone melter with storage capability. This facility could process 3.22 million tons of sediment over a 15 year period, or slightly less than half of the total amount to be dredged in the proposed plan. If the resulting glass aggregate were to be sold at $2 a ton, the unit cost of disposal of the sediment would be $32.92 a ton. If the aggregate sold for $25 a ton, the unit cost would drop to $26.29 a ton. At the ends of the studied spectrum, a 100-ton a day, integrated melter without storage running 240 days a year would process 860,000 tons of sediment over 15 years and the disposal costs would run from $56.54 to $49.91 a ton. Two 375-ton standalone units with storage running 350 days a year would process 9.66 million tons of sediment over 15 years and the disposal costs would range from $27.01 to $20.38. It would also be feasible to use excess melter capacity to vitrify contaminated sediment and soil from other sites in Wisconsin to produce similar glass aggregate.

In comparison, disposal costs for landfilling the contaminated sediment from the pilot projects at Deposit N and Sediment Management Unit 56/57 were about $80 a ton for the sediment containing less than 50 ppm of PCBs disposed of in Wisconsin landfills and about $140 a ton for the sediment containing over 50 ppm disposed of out of state. The landfilling costs in the proposed cleanup plan were assumed to be in the $45 to $55 a ton range.

Paulson concluded, “As we move toward designing a final cleanup plan, the more good options we have for dealing with the contaminated sediment, the better the position we’re in. We want to come up with a balanced, efficient and effective cleanup plan.”

Out and About...

By Greg Swanson, Wisconsin Department of Natural Resources

The Fox River Intergovernmental Partnership, made up of the U.S. Environmental Protection Agency, Wisconsin Department of Natural Resources, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, Oneida Tribe of Indians of Wisconsin and Menominee Indian Tribe of Wisconsin, regularly provides speakers to organizations in the Fox Valley area. The following partners recently made presentations.

February

- *Colette Charbonneau,* FWS: Brown County Conservation Alliance, Green Bay; NRD process and restoration process.
- *Jim Hahnenberg,* EPA: Weyauwega Junior High School, Weyauwega; Fox River Proposed Plan.

Profile On . . . Roger Grimes

EPA attorney accepts Fox River challenge and runs with it

By Susan Pastor, U.S. Environmental Protection Agency

After a full morning of meetings, conference calls and e-mails pertaining to the Lower Fox River, U.S. Environmental Protection Agency Attorney Roger Grimes looks forward to changing out of his suit and into something more comfortable – his running clothes.

Grimes, 54, has been running since his high school days back in Marshalltown, Iowa, when he competed in track and field events. While pursuing a bachelor's degree in government at Dartmouth College in New Hampshire, he continued to run. Later, he advanced to 26-mile marathons and shorter 5, 10 and 20-kilometer races. "I usually finished in the top few percent in a big race," he said. "But not any more. Now I'm happily back in the pack."

Today, he runs at lunchtime for exercise with his longtime friend and Dartmouth classmate, EPA Deputy Administrator David Ullrich. "Dave and I have run together since 1966," he continued. "I met him in college on the Dartmouth track team."

Since their college days, Grimes said they have had three knee operations between them. "I have the only good knee since my left knee, out of our four, is the only one not to have been operated on," he explained.

Back in the office, after his noon run with Ullrich, Grimes often continues to tackle more Fox River-related issues well into the afternoon. Grimes, who earned his law degree from the University of Tennessee in 1974, said he has worked on many complicated cases in his 27 years at EPA, but the Fox River has been exceptionally challenging. "There is an overwhelming amount of information to deal with," he explained. "Being able to sort out what is important and what is less important is always kind of a trick."

Grimes has worked on many Superfund projects, including two in Janesville, Wis. and another in

Roger Grimes

Michigan to which he has been assigned since 1986. He said he can't even begin to compare them to the Fox River project. "The one in Michigan was particularly complicated because of three separate sources of contamination that flowed into a well field," he continued. "It resulted in four separate pieces of federal litigation and lots of private party litigation in the state courts. There was also a bankruptcy and hundreds of responsible parties."

But Grimes, who lectures on bankruptcy topics and is considered an expert in this area by his peers, said what makes the Fox case unique is that so many people and organizations are involved. "Here, there are stakeholders like the state, tribes, municipalities, paper companies, trustees with a parallel restoration plan and the public," he stated. "I've never worked

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on a site with so many stakeholders who have so many widely differing viewpoints."

To address these viewpoints, Grimes has been involved in a variety of projects regarding the Fox River. "The emergency cleanup at Sediment Management Unit 56/57 was a real good effort to put in place," he said. "There was a lot of work done in a short amount of time. That was a very good outcome. Also, the consent decree with Appleton Papers and NCR is really quite a unique agreement and will serve us all well."

Although the Lower Fox River has required a lot of his time, he admits that working with other EPA professionals as a team has made his job easier. He meets regularly with his co-workers and often learns about other aspects of the project with which he is not directly involved. "It's been a very cohesive team," he stated.

When Grimes isn't running (literally) from one Fox River meeting to the next, he enjoys spending time with family members at their Chicago home or on their Iowa farm. He, his wife Emily and three teenage children try to spend most of the summer months on the farm overseeing corn, bean and alfalfa crops. Since his parents' farm is nearby, Grimes and his "conservation-minded" father planted over 200,000 trees on their respective properties. He said his own interest in the environment also sparked his interest in woodworking. "I have my own sawmill and I cut my own trees into lumber to make my own furniture," he explained. " It all goes full circle."

Apparently, his life has also gone full circle, beginning with his law school days. "In law school, I had environmental law in mind," he concluded. "Then, you usually go to a law firm and end up with corporate or industrial clients. But, this job has suited me well, philosophically. I enjoy working on the government side of environmental issues."

Check out these Web sites:

http://www.dnr.state.wi.us/org/water/wm/lowerfox/

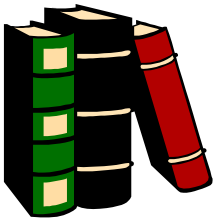
http://www.epa.gov/region5/foxriver/

http://www.fws.gov/r9dec/nrdar/nrdamain.html

http://www.fws.gov/r3pao/nrda/

Information Available at Local Libraries

The Intergovernmental Partners invite the public to review technical reports, fact sheets and other documents related to the Lower Fox River cleanup at information repositories set up in the reference sections of the following local libraries. Information repositories at the public libraries in DePere, Kaukauna, Little Chute, Neenah and Wrightstown have been discontinued. However, binders containing fact sheets will be mailed to and maintained at these locations as well as at the repositories listed below.



- **Appleton Public Library**, 225 N. Oneida St., Appleton, Wis.; (920) 832-6170
- **Brown County Library**, 515 Pine St., Green Bay, Wis.; (920) 448-4381, Ext. 394
- **Door County Library**, 107 S. Fourth Ave., Sturgeon Bay, Wis.; (920) 743-6578
- **Oneida Community Library**, 201 Elm St., Oneida, Wis.; (920) 869-2210
- **Oshkosh Public Library**, 106 Washington Ave., Oshkosh, Wis.; (920) 236-5200

An administrative record, which contains detailed information upon which the selection of the final site cleanup plan will be based, is also available for review at two DNR offices: 801 E. Walnut St., Green Bay, Wis. and 101 S. Webster St., 3rd Floor, Madison, Wis. An administrative record is also available at the EPA Record Center, 77 W. Jackson Blvd., 7th Floor, Chicago, Ill.

Prepared by the Fox River Intergovernmental Partnership: Wisconsin Department of Natural Resources, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, Menominee Indian Tribe of Wisconsin, Oneida Tribe of Indians of Wisconsin, and National Oceanic and Atmospheric Administration. Supporting agencies include the Wisconsin Department of Health and Family Services, the U.S. Agency for Toxic Substances and Disease Registry, and the U.S. Army Corps of Engineers.

Disclaimer: The opinions expressed in these articles are solely those of the authors and are not necessarily shared by all members of the Fox River Intergovernmental Partnership.

INSIDE FOX RIVER *CURRENT*

Fox River Current is published bimonthly by the Fox River Intergovernmental Partnership. Its purpose is to provide up-to-date information about cleanup and restoration efforts on the Lower Fox River. Call Greg Swanson at (608) 264-6024 to request a subscription or alternative format. Feedback on articles and ideas for future issues are welcome. Send comments to Greg Swanson, *Fox River Current*, DNR, CE/6, P.O. Box 7921, Madison, WI 53707 or e-mail <swansg@dnr.state.wi.us>